

Application No.: 10/508,837  
Inventor: GROSSMAN  
Docket No.: 53368

### **Amendments to the Claims**

The following **Listing of Claims** will replace all prior versions and listings of claims in the application.

### **Listing of Claims**

1. (canceled)
2. (original) A method for identifying herbicidally active substances, comprising the following steps:
  - a) bringing one or more enzymes selected from the group consisting of the enzymes tryptophan aminotransferase, indole-3-pyruvate decarboxylase and indole-3-acetaldehyde oxidase into contact with one or more test substances under conditions which permit the binding of the test substance(s) to one of the abovementioned enzymes or to the nucleic acid sequence which encodes one of the abovementioned enzymes; and
  - b) detecting if the test substances reduce or block the transcription, translation or expression of at least one of the abovementioned enzymes; or
  - c) detecting whether the test substances reduce or block the activity of at least one of the abovementioned enzymes; or
  - d) detecting whether the test substance binds to one of the abovementioned enzymes.
3. (previously presented) A method as claimed in claim 2, wherein the test compound

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- a) is treated with a plant cell lysate which comprises at least one of the enzymes tryptophan aminotransferase, indole-3-pyruvate decarboxylase and indole-3-acetaldehyde oxidase or
  - b) with at least one of the enzymes tryptophan aminotransferase, indole-3-pyruvate decarboxylase and indole-3-acetaldehyde oxidase which are either partially or fully purified, and
  - c) the enzymatic activity of at least one of the abovementioned enzymes is subsequently determined in comparison with the activity of at least one of the abovementioned enzymes which has/have not been treated with a test compound, those chemicals compounds which reduce or block the activity of at least one of the abovementioned enzymes being selected.
4. (previously presented) A method as claimed in claim 2, wherein tryptophan aminotransferase is employed as the enzyme.
5. (currently amended) A method as claimed in claim 2, wherein tryptophan or a triptophan derivative is employed as substrate and the enzymatic activity in step (c) is determined via
- a) the decrease in L-tryptophan; or
  - b) the increase in indole-3-pyruvate; or

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- c) the increase in indole-3-acetaldehyde; or
  - d) the increase in indole-3-acetic acid; or
  - e) the increase in indole-3-butyric acid ~~indole-3-butyric acid~~; or
- a combination of at least two of the methods (a) to (e).
6. (original) A method as claimed in claim 2, wherein indole-3-pyruvate ~~indole-3-pyruvate~~ or an indole-3-pyruvate ~~indole-3-pyruvate~~ derivative is employed as the substrate and the enzymatic activity in step (c) is determined via
- a) the decrease in indole-3-pyruvate; or
  - b) the increase in indole-3-acetaldehyde; or
  - c) the increase in indole-3-acetic acid; or
  - d) the increase in indole-3-butyric acid; or
  - e) a combination of at least two of the methods (a) to (d).
7. (original) A method as claimed in claim 2, wherein indole-3-acetaldehyde or an indole-3-acetaldehyde derivative is employed as the substrate and the enzymatic activity in step (c) is determined via
- a) the decrease in indole-3-acetaldehyde; or

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- b) the increase in indole-3-acetic acid; or
  - c) a combination of methods a) and b).
8. (previously presented) A method as claimed in claim 2, wherein the enzymatic activity is determined spectroscopically.
  9. (previously presented) A method as claimed in claim 2, wherein the substances are identified in the form of a high-throughput-screening.
  10. (previously presented) A method as claimed in claim 2, wherein the compound selected by means of the method is applied to a plant to verify the herbicidal activity.
  11. (previously presented) A method for controlling undesired vegetation, said method comprising applying a compound with herbicidal growth-regulatory activity to the vegetation, wherein the compound inhibits one or more compound selected from the group consisting of the enzymes tryptophan aminotransferase, indole-3-pyruvate decarboxylase and indole-3-acetaldehyde oxidase.
  12. (previously presented) The method as claimed in claim 11, wherein the compound with herbicidal or growth-regulatory activity is formulated with the aid of adjuvents which are suitable for the formulation of agricultural compositions.
  13. (original) The compound of the formula (I)
  14. (previously presented) A method for controlling undesired vegetation, said method

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comprising applying the compound as claimed in claim 13 to the vegetation.